

REMARKS

Claims 1-27 are in the application.

All objections and rejections are respectfully traversed.

The specification has been amended to correct an incorrect reference to the “second station.” The Applicants respectfully request that the Examiner approve the Applicants’ changes to the specification.

§ 102 Rejections

In the Office Action, claims 1-27 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent Publication 2003/0048770 to Proctor, hereinafter “Proctor.”

Brief Description of the Cited Art

Proctor discloses an access point which is configured to steer an antenna array in order to receive a wireless signal in a data network. The access point contains a table which is capable of storing identification information of nodes in the data network and associated antenna setting parameter information which is used to steer the antenna array to receive signals from the nodes. The access point also contains an array controller which is used to control the antenna array and receiving equipment which is used to determine received signal quality metrics. See Proctor, paragraph 0034.

The antenna array is initially set in an omni-directional mode. A message is received and a check is performed at the data link layer to determine if the originator of the message can be identified. If the originator can be identified, a last known angle that was used to receive a previous message from the originator is looked up in the table and the antenna is steered in the direction specified by this last known angle. If the originator cannot be identified, the antenna is set in a search mode which steps the antenna through a sequence of directional angles to find a direction in which the signal can be received with the best signal quality metric (e.g., maximum signal strength, best signal quality, lowest bit error rate, etc.). Once this angle is determined, the antenna is steered to this angle and the angle is recorded in the table. See Proctor, paragraphs 0039-0041 and FIG. 3.

Differences Between the Claimed Invention and the Cited Art

Representative claim 1 recites:

1. A method for operating a directional antenna in a Wireless Local Area Network (WLAN), comprising:
causing a Medium Access Control (MAC) layer to provide metrics associated with respective beam angles of the directional antenna; and
based on the metrics, steering the directional antenna to a selected direction associated with an Access Point (AP).

The Applicants respectfully submit that Proctor does not implicitly or explicitly describe the Applicants' claimed *causing a Medium Access Control (MAC) layer to provide metrics associated with respective beam angles of the directional antenna*.

Proctor is silent with regards to a MAC layer that provides metrics used to steer a directional antenna. As noted above, in Proctor, a message received by an access point is examined at the data link layer to identify the originator of the message. See Proctor, paragraph 0043. If the originator of a message cannot be identified, the antenna array is placed in search mode to find a direction in which the signal can be received with the best signal quality metric. See Proctor, paragraph 0039. This involves stepping the antenna through a sequence of angles to find a direction in which the signal can be received with the best signal quality metric which are provided by the detection circuits present in the access point. See Proctor, paragraphs 0034 and 0039. Although Proctor does not explicitly state which network layer the signal quality metrics used to steer the antenna array are provided, Proctor does state that the metrics used to steer are determined by the detection circuits which seems to imply that the metrics are provided at the physical (PHY) layer and not the MAC layer.

The Applicants, on the other hand, clearly claim providing metrics which are used to steer an antenna array at the MAC layer. To better understand this concept, the Applicants' respectfully direct the Examiner's attention to pages 8-11 and FIG. 8 of the specification. Here, an example embodiment of the invention is described that includes an antenna array, an antenna controller, a PHY layer, a MAC layer and a system management entity (SME). The antenna array receives signals and the PHY layer provides signal-related parameters of the received signals (e.g., received signal strength (RSS), signal quality (SQ), etc.) to the MAC layer. The

MAC layer uses the signal-related parameters to generate metrics. These generated metrics are, in turn, communicated to the SME at the MAC layer. The SME uses the generated metrics to direct the antenna controller to steer the antenna array. Note that, the metrics are provided at the MAC layer, something that Proctor fails to disclose.

The Examiner seems to believe that the table described at paragraph 0034 of Proctor which is configured to hold antenna setting parameters teaches causing a MAC layer to provide metrics that are used to steer an antenna array. The Applicants respectfully disagree. First, the values in the table are provided using a table lookup operation. See Proctor, paragraph 0043 and FIGs. 3 and 4. Looking up a value in a table is not the same thing as providing a value at the MAC layer. Looking up a value in a table typically involves searching the table to locate the value. Providing a value at the MAC layer, on the other hand, involves providing a value using a data networking protocol such as, for example, the IEEE 802.11 protocol. Providing a value using a data networking protocol typically involves communicating the value using packets and networking stacks which is quite different than searching a table.

Second, Proctor indicates that the table is part of a message routing table. See Proctor, paragraph 0039. As is well known in the art of data networking, routing is performed at the network layer of the Open Systems Interconnect Reference Model (OSI-RM). The MAC layer, on the other hand, is at the data link layer of the OSI-RM which is different than the network layer. Thus, even if providing a value from the table could be said to be providing the value using a networking protocol, which it is not, at best, Proctor teaches providing the value at the network layer protocol and not the data link layer.

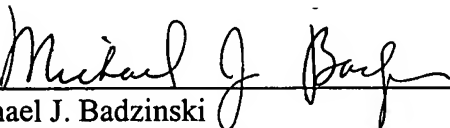
Because of the absence of *causing a Medium Access Control (MAC) layer to provide metrics associated with respective beam angles of the directional antenna* in Proctor, the Applicants respectfully submit that Proctor does not render the Applicants' claims 1-27 anticipated under 35 U.S.C. § 102. Therefore, the Applicants' respectfully request that the above rejections to claims 1-27 be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By _____

Michael J. Badzinski

Registration No. 51,425

Telephone: (978) 341-0036

Facsimile: (978) 341-0136

Concord, MA 01742-9133

Dated: 3/14/06